The Journey to Sustainable Growth: DuPont's Energy and Greenhouse Gas Reduction Goals

Department of Energy Conference 2001

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DuPont

- Food and Nutrition
- Health Care
- Agriculture
- Apparel
- Construction
- Electronics
- Transportation

Corporate Environmentalism

"Moving beyond compliance to environmental stewardship that is fully in line with public expectations"

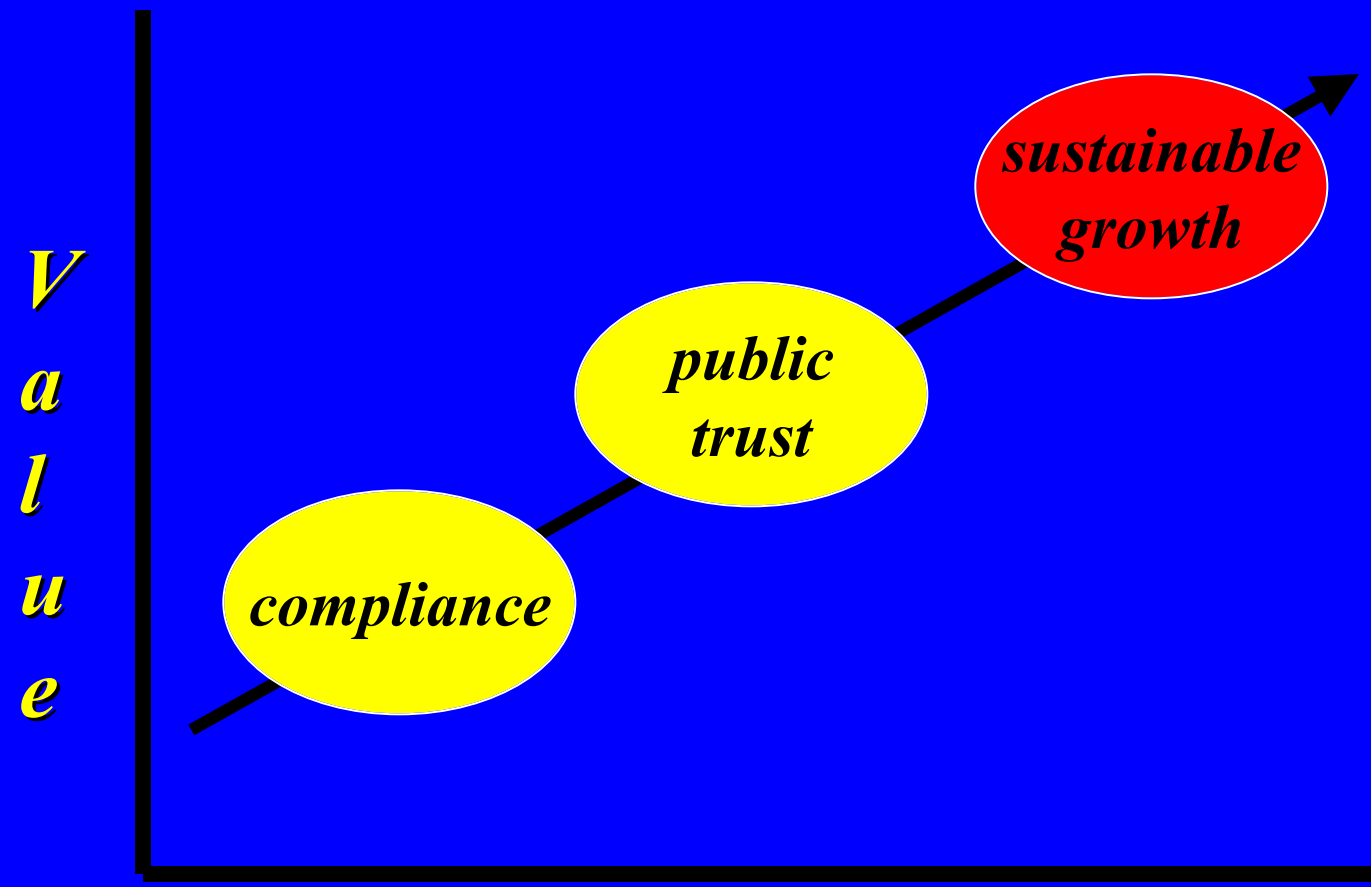
Ed Woolard - 1989

Sustainable Growth

"Creating shareholder and societal value *while* decreasing our environmental footprint"
…. along the value chain

Chad Holliday - 1999

The Journey


Value
compliance
public trust
sustainable growth
Business Integration

Progress

(Millions of Pounds Reduced Globally)

	1990	2000(est.)	
• Air Carcinogens	9.1	1.1	▼ 88%
• Priority Air	68.0	18.0	▼ 74%
• Greenhouse Gases (MM mtCE)	24.6	10.2	▼ 59%
• Deepwell Disposal	166	30	▼ 82%
• TRI Releases	225	55	▼ 75%
• TRI As Generated	890	550	▼ 38%
• Hazardous Waste	2750	1650	▼ 40%

The Goal is Zero

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Transformation

Today	Future
Volume Driven	Value Driven
Energy & Resource Intensive	Knowledge Intensive
Inherently Hazardous/Toxic	Inherently Safe
Linear Systems	Circular Systems
Chemistry & Physics	Biology & Information
Internal Out	External In

DuPont and Climate Change

- Shaped by active participation in global scientific effort (IPCC)
  - Involvement began with ozone depletion
- Concluded in 1991 that there is cause for concern
  - Analyzed DuPont emissions profile
  - Established goals for 1990's to:
  - Reduce global GHG emissions 50%
  - Increase energy efficiency by 15%

New Goals

Base year: 1990

Goal Year: 2010

- **Reduce global CO2 equivalent greenhouse gas emissions by 65%**
- **Hold energy flat**
- **Source 10% of global energy use from renewable resources.**

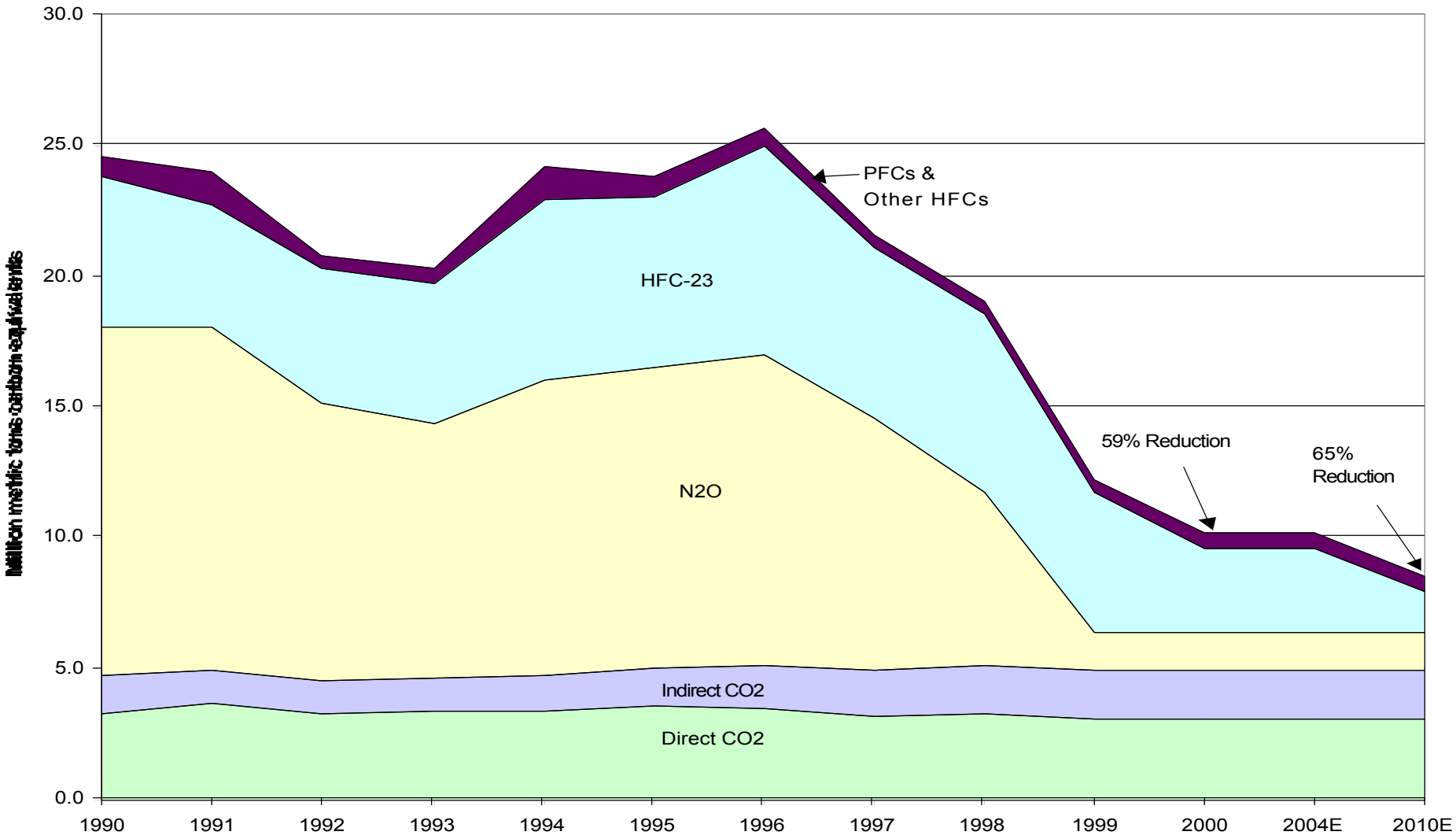
Reduce Greenhouse Gas Emissions by 65%

- Use Kyoto basket of gases for scorecard
  CO2, N2O, HFCs, PFCs, CH4, SF6
- Milestones:

Year	% Reduction
1997	16
2000	59
2010	65

- Key reductions:
  N2O at Maitland and Wilton in 1998-99 period
  HFC-23 at Shimizu and Louisville in 2000
- Need accurate reporting of projects, reductions, increases

DuPont Kyoto Greenhouse Gas Reductions 1990 - 2010



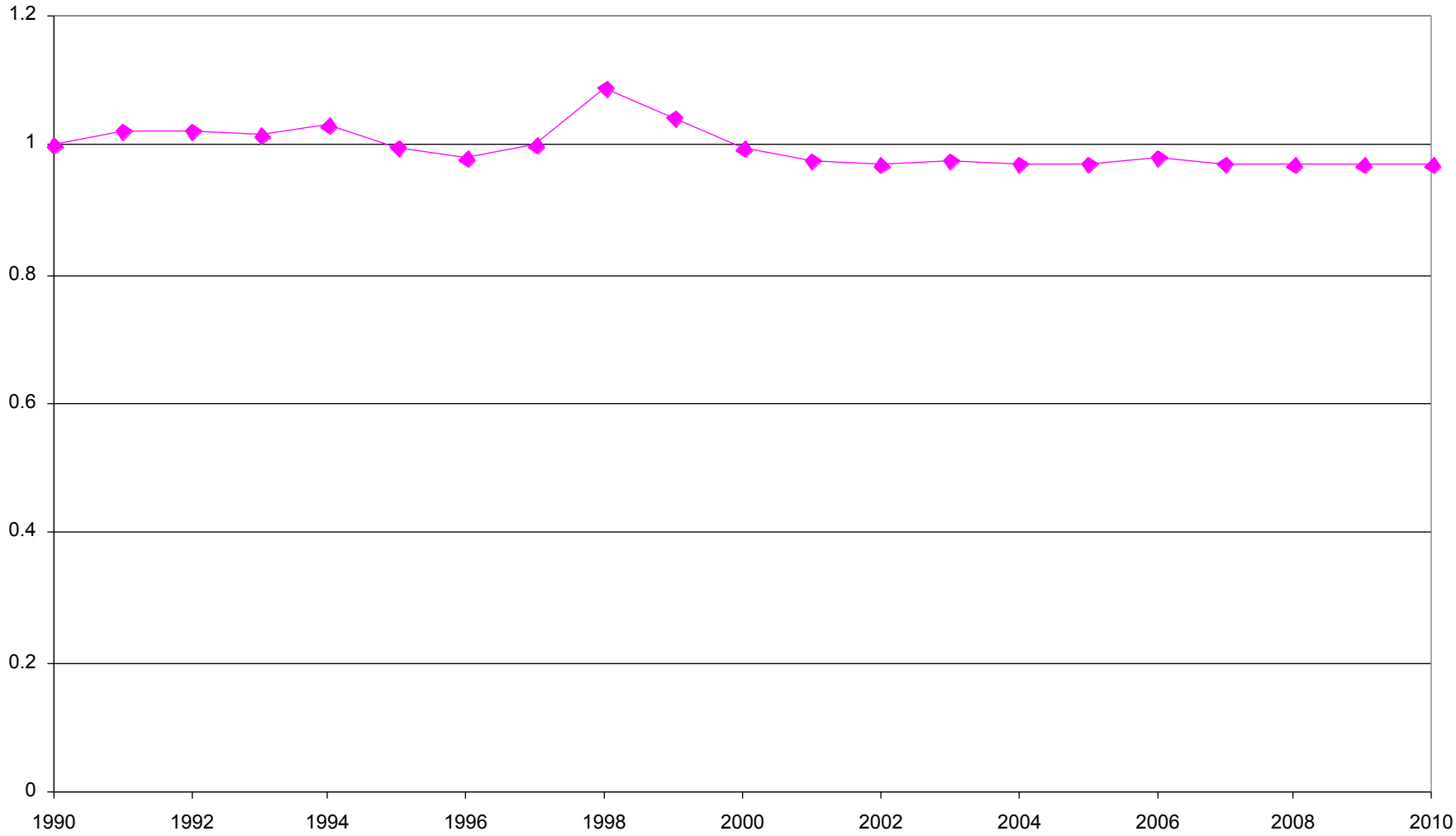
Hold Energy Flat

- Global energy flat 1988 - 1997 while production increased 36%.

- Energy productivity gains arise from
  - Product changes
  - Yield and plant utilization gains
  - Energy efficiency projects
  - Powerhouse modernizations

- Tracked with Corporate Environmental Plan and Engineering Energy Survey

DuPont Global Energy Relative to 1990



FLW

Energy and Emissions Inventories

- Total Energy - Corporate Environmental Plan
  - Electricity and steam purchased
  - Types and amounts of fuels burned on-site
  - Convert to BTU's
- CO2 from on-site energy - based on fuels purchased
- CO2 from process - Production volume and mass balance
- CO2 from off-site energy - Electricity and steam purchased
- HFC 23 - Production volume and engineering estimates
- Nitrous oxide - production volume and engineering estimates

10% Renewable Energy

- Target wind, biomass and solar
- Geothermal and tidal too small and too location specific
- Exclude nuclear
- Exclude hydropower (in U.S. at max capacity)
- Assume no net energy increase
- DuPont renewable demand in 2010 will require about 300 megawatts capacity
- 2000 technology for 300 MW new wind power:
  - $300 MM installed generating capacity
  - $30-60 MM/yr cost penalty. Opportunities for cost reduction.
  - 17% of present U.S. capacity and 4% of present world capacity.

The Interlocking Values of Sustainable Growth